Supporting information

Fabrication of Highly Dispersed/Active Ultrafine Pd Nanoparticles Supported Catalyst: a Facile Solvent-free In-situ Dispersion/Reduction Method

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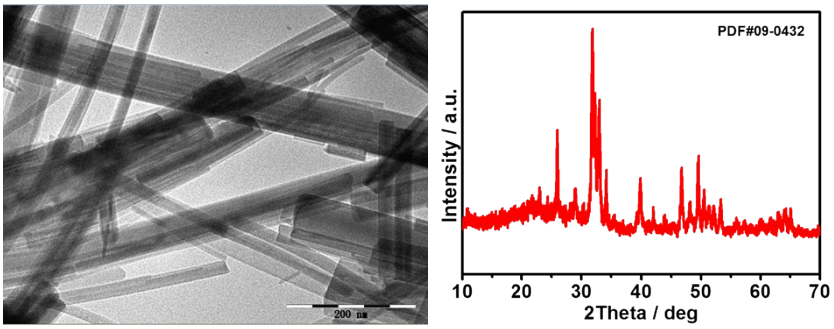

Fig. S1 TEM image and XRD pattern of hydroxyapatite nanorods.

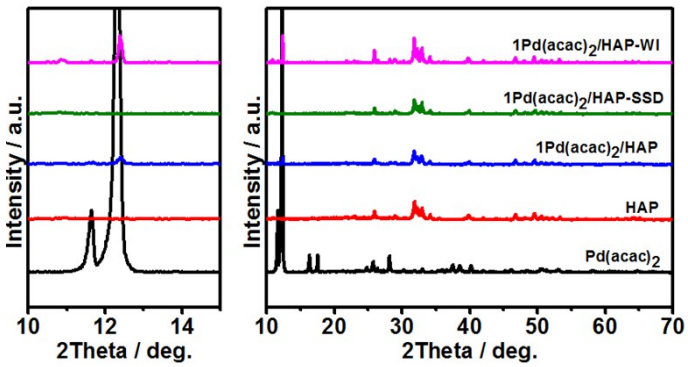

Fig. S2 XRD patterns of different samples compared with traditional wet impregnation (WI) sample

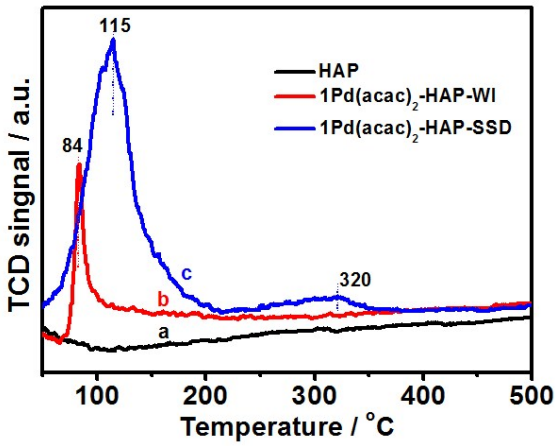

Fig. S3 H_2-TPR profiles obtained from: a) HAP, b) 1Pd(acac)$_2$/HAP-WI and 1Pd(acac)$_2$/HAP-SSD

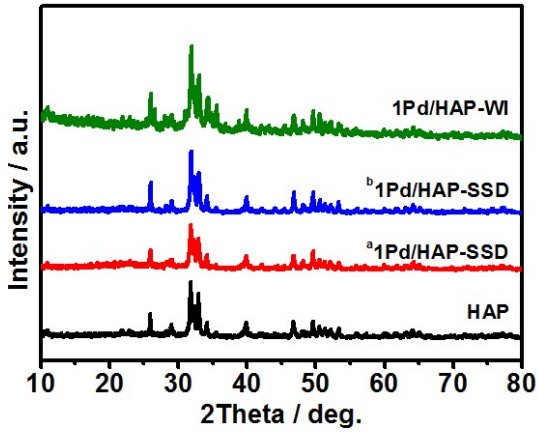

Fig. S4 XRD patterns of 1Pd/HAP obtained after reduction in H_2.

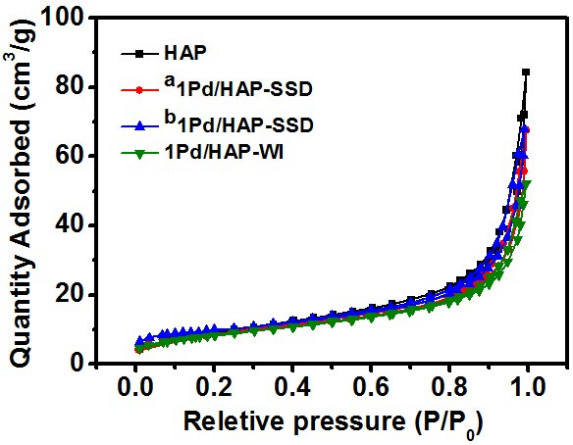

Fig. S5 Nitrogen adsorption-desorption isotherm curves of HAP, [a]1Pd-HAP-SSD, [b]1Pd-HAP-SSD and 1Pd-HAP-WI.

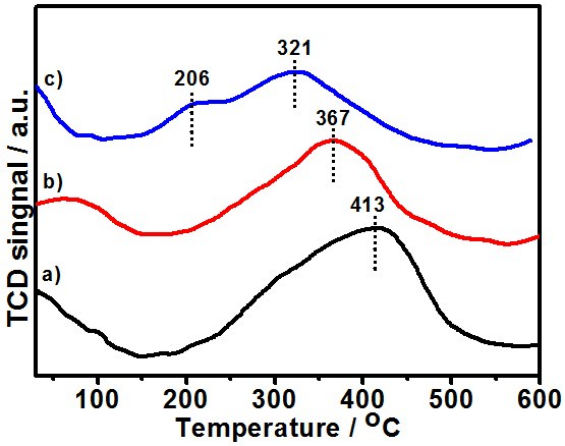

Fig. S6 H_2-TPD profiles of different samples: a) [a]1Pd/HAP-SSD and b) [b]1Pd/HAP-SSD and c) 1Pd/HAP-WI.

Table S1 Textural parameters of different samples

Samples	Specific Area / m^2/g	Pore size / nm	Pore volume / cm^3/g
HAP	34	7.3	0.071
[a]1Pd/HAP-SSD	34	9.0	0.077
[b]1Pd/HAP-SSD	31	8.2	0.064
1Pd/HAP-WI	31	7.4	0.057